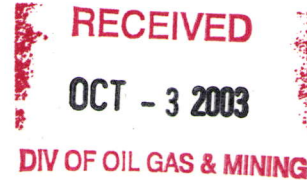


H.E. Davis Construction, Inc.

525 West Arrowhead Trail • P.O. Box 488 • Spanish Fork, Utah 84660
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Division of Oil, Gas & Mining,
Attn: Wayne Hedberg
PO Box 145801
Salt Lake City, UT 84114-5801



RE: Response to Initial Review of Amended Plan – HE Davis Levan Chicken Creek
M/0127016
023

Mr. Hedberg,

The following is the written response and replacement pages for the HE Davis Levan Chicken Creek mine initial review of amended plan.

1. There was a question about sec. 106.5. Answer. The material sampled all came from stockpiles.
2. There was a comment that drainage reconstruction was not being included in the bond amount. Answer. The Drainage reconstruction was accounted for with 200lf listed in the bond calculations.
3. All other questions or comments that can be addressed in written form are included in the replacement pages. They are in the format of underline for new text and ~~strikeout~~ for items which have been deleted.
4. There are no updated maps included at this time. All the Map information for this project is located on a PC which has "crashed." A new digitizer and PC have been ordered and will be installed and running by October 13th. By October 20th updated maps will be provided to DOGM.
5. The SPCC plan provided is not signed because the appropriate maps could not be included for the reason mentioned above..

If there are any Questions please call me on my cell phone at 801-592-5578. If there are any items which we have not fully addressed please let us know and a response will be provided within 10 days unless there are extenuating circumstances, of which there have been an overabundance of to date.

Tony L. Christofferson
Property/Environmental Manager
Clyde Companies – HE Davis Construction

Minimizing Hazards

Shafts and tunnels – none on site.

Disposal of trash - A small 20' X 20' "boneyard" will be kept on site during the life of the operation. The "boneyard" will be kept near the crusher. All trash will be hauled off site and disposed of properly. No trash or equipment parts, etc. will be buried. A "port-a-potty" will also be used and maintained for all employees.

Capping holes - any exploratory holes that have been drilled will be consumed by the extraction of the gypsum. Drill holes made for blasting purposes will be consumed in the blasting process.

Posting signs - The following signs will be posted in appropriate places:

Danger High Bank

Hard Hat Area

Danger Flammable Liquid

No Trespassing

Berms and fences – 18" Berms will be used to divert storm water away from disturbed areas to help prevent erosion. A fence will be placed above highwall areas to prevent access. Entrance to the site will be controlled by gates along with the natural vegetation and steepness of the site.

Minimizing Damage to Drainage

Care will be taken to avoid disrupting the natural drainage whenever possible. Any drainage that is impacted will be restored as close to original condition and shape as possible. Wherever drainage is disturbed the new channel will be lined with a good gradation of angular, hard, 6"-24" Rip-Rap installed to engineering guidelines to help prevent erosion. Berms will be used to keep runoff from disturbed areas from flowing directly into the drainage system, thus helping to avoid silting.

Minimizing Sediment and Erosion

Berms will be constructed at the edges of the disturbed areas to control any runoff water. The berms will prevent runoff from the disturbed areas from flowing into the drainage system, thus helping to avoid silting. These berms are intended to contain any and all stormwater that falls onto the disturbed area to within the boundary of the disturbance. The berms will also prevent run-on. The lower pad may have some runoff so a small sediment basin will be constructed. The basin will contain 135% of a ten year storm event. Stormwater should not leave the site.

110.1 Current land use and post-mining land use.

Current or pre-mining land use(s) [other than mining]: _Wildlife Habitat_

List future post-mining land use(s) proposed: _Wildlife Habitat_

The US forest service property will revert back to wildlife habitat.

The private property will also revert back to wildlife habitat.

110.1 Current land use and post-mining land use.

Current or pre-mining land use(s) [other than mining]: _ Wildlife Habitat _

List future post-mining land use(s) proposed: _ Wildlife Habitat _

The US forest service property will revert back to wildlife habitat.

~~The private property will be used as an equestrian staging area and for camping.~~
~~This area will include the lower pad that is used for materials processing. The pad is 5.12~~
~~acres and the lower access roads leading into and out of the pad (.58 acres) will not be~~
~~reclaimed to the same standard as the rest of the mining areas and mine access roads.~~
~~The lower access roads will not be reclaimed. The pad will be graded to eliminate~~
~~hazards, any compacted areas will be lightly ripped and then seeded with a grass mix.~~

Minimizing Hazards

Shafts and tunnels – none on site.

Disposal of trash - A small 20' X 20' "boneyard" will be kept on site during the life of the operation. The "boneyard" will be kept near the crusher. All trash will be hauled off site and disposed of properly. No trash or equipment parts, etc. will be buried. A "port-a-potty" will also be used and maintained for all employees.

Capping holes - any exploratory holes that have been drilled will be consumed by the extraction of the gypsum. Drill holes made for blasting purposes will be consumed in the blasting process.

Posting signs - The following signs will be posted in appropriate places:

Danger High Bank

Hard Hat Area

Danger Flammable Liquid

No Trespassing

Berms and fences – 18" Berms will be used to divert storm water away from disturbed areas to help prevent erosion. A fence will be placed above highwall areas to prevent access. Entrance to the site will be controlled by gates along with the natural vegetation and steepness of the site.

Minimizing Damage to Drainage

Care will be taken to avoid disrupting the natural drainage whenever possible. Any drainage that is impacted will be restored as close to original condition and shape as possible. Berms will be used to keep runoff from disturbed areas from flowing directly into the drainage system, thus helping to avoid silting.

Minimizing Sediment and Erosion

Berms will be constructed at the edges of the disturbed areas to control any runoff water. The berms will prevent runoff from the disturbed areas from flowing directly into the drainage system, thus helping to avoid silting. ~~It is expected that some runoff will flow down the main access road and around the pad used for processing and storing material. A small sediment basin will be constructed where any suspended load in the storm water will have a chance to drop out before the water enters the main drainage system.~~

106.9 Location and size of ore, waste, etc.

Ore - All ore mined from the site will be processed and stockpiled on the county road level in an area that is 5.12 acres (see disturbed area map). Any material on top of the gypsum deposit is assumed to be topsoil and will therefore be collected and saved. The gypsum deposit is massive and considered to be "pure". Because of the characteristics of the deposit all materials mined will be consumed and no tailings will be generated. The gypsum will not be treated for the purposes of processing. The ore may be sprayed with water as a dust suppressant, however, any discharge from water sprayed onto the material or from rain water would not be considered hazardous.

Overburden - Overburden will be removed with a trackhoe. This material will include soil and fines, vegetation, and small rock debris. All of which will be stored together in a stockpile in an area that will be undisturbed by mining activities and will later be used as "topsoil". A berm will be built around the base of the stockpile to prevent erosion. The berm will also be situated so that storm water will not erode the pile. The overburden is thin enough that all that is collected will be used to reclaim the areas that will be exposed as well as those areas that were already exposed at the time Geneva Rock took over the mine.

Soil removed from roadways will be stored on the shoulder of the road. This will be done to control erosion and act as a safety barrier for vehicles.

All the stockpiled soil, including the soil in berms, will be seeded so that a protective covering of vegetation will grow. The vegetation will help prevent erosion as well as add organic matter to the material, which will promote future growth when the material is used for reclamation.

Tailings - No waste in the form of tailings or reject material is expected.

Dumps and ponds - A small sediment pond will be constructed on the lower level. The purpose of the pond is to settle out the suspended load of any storm water that comes from the mine site.

Effluent discharge point - None constructed or used.

Reclamation of drainage

Minimal damage will be done to any drainage system. The most impact will be on the lower level where a pad has been constructed for the processing and storage of material. The drainage area for spring runoff and storm events has been shifted to the east but the grade has been relatively unchanged. This drainage will be reclaimed at the end of operations. The drainage channel will be lined with a good gradation of angular, hard, 6"-24" Rip-Rap installed to engineering guidelines to prevent erosion.

Reclamation of Waste Dumps

No waste material will be generated therefore no reclamation of dumps will need to be completed.

Reclamation of shafts and adits

There are no shafts or adits on the property currently and none will be constructed therefore none will remain when mining is complete.

Reclamation of drill holes

All drill holes will be consumed in the mining process and none will remain when mining is complete.

Reclamation of tailings

No tailings will be generated therefore none will remain when mining is complete.

Reclamation of leak pads

No leak pads will be constructed therefore none will remain when mining is complete.

Describe the disposition of any stockpiles remaining

No stockpiles will remain when mining is complete.

Reclamation of benches and quarry floors

Topsoil will be placed on the benches using a trackhoe and seeding will take place as mining proceeds. The quarry floors will be sloped, covered with topsoil and seeded at the conclusion of operations.

110.2 Reclamation of roads, highwalls, slopes, etc.

Reclamation of roads

Soil that has been removed from roadways and stored on the shoulders of the road will be replaced using a trackhoe. The soil will be placed to match the original slopes and grades as close as possible. The roadways will then be hydroseeded

Reclamation of highwalls

A variance will be requested so that highwalls may be left as the final grade for parts of this mine. The benches of the highwalls will be covered with 6" of soil and then hand broadcast seeded. The area will be raked to help cover the seeds

Reclamation of slopes

Slopes will be graded in such a way as to tie mined areas back into existing slopes. Roadways will also be graded to match the pre-mining slopes from which they were cut. All slopes will be covered with at least 6" of soil and then seeded.

Impoundments, pits and ponds to be left

~~A small sediment pond will be left near the county road on the lowest level of the mine. The pond will be about 200 square feet, 2 to 2 1/2 feet deep and will have a capacity of about 1/100th of an acre foot. The pond will be in the drainage alignment and will be used to drop sediment out of any storm water that goes through it. The outlet will be the same size as the inlet.~~

Reclamation of impoundments, pits and ponds

~~The only pond that will be built on the site will be kept in operation after the mining is completed. The sediment pond will be left near the county road on the lowest level of the mine. The pond will be about 200 square feet, 2 to 2 1/2 feet deep and will have a capacity of about 1/100th of an acre foot.~~

Reclamation of drainage moved To page VII-3

Minimal damage will be done to any drainage system. The most impact will be on the lower level where a pad has been constructed for the processing and storage of material. The drainage area for spring runoff and storm events has been shifted to the east but the grade has been relatively unchanged. This drainage will not be reclaimed because the pad will remain in existence after the mining has ceased.

110.2 Reclamation of roads, highwalls, slopes, etc.

Reclamation of roads

Soil that has been removed from roadways and stored on the shoulders of the road will be replaced using a trackhoe. The soil will be placed to match the original slopes and grades as close as possible. The soil will be tested for nutrients and a soil amendment of composted manure will be added if necessary. Roadway areas will then be seeded with a DOGM approved seed mix

Reclamation of highwalls

A variance will be requested so that highwalls may be left as the final grade for parts of this mine. A report from AGECEC will be included with this NOI that details the stability of the slopes that are proposed for this mine. The recommendations listed in that report will be followed including setbacks of the slope face and processes used to mine the material. The benches of the highwalls will be covered with 6" of soil and then hand broadcast seeded. The area will be raked to help cover the seeds.

Reclamation of slopes

Slopes will be graded in such a way as to tie mined areas back into existing slopes. Roadways will also be graded to match the pre-mining slopes from which they were cut. All slopes will be covered with at least 6" of soil and then seeded.

Impoundments, pits and ponds to be left

None will be left.

Reclamation of impoundments, pits and ponds

There will be a small detention basin built to collect runoff from the stockpile and processing site. The basin will be used to hold runoff water and to act as a sediment trap. The basin has been designed to hold 135 % of a 10-year storm event. The basin will be about 525 square feet, 4 feet deep and will have a capacity of about 77 cy. The basin will be reclaimed at the end of operations.

Note : see copy of engineering calculations.

110.3 Surface facilities to be left.

There will be no surface facilities left on forest service property. All areas will be reclaimed to the standards set forth by the US Forest Service and the Division of Oil, Gas, and Mining.

The access road to the mine that is on private property will be removed from service and reclaimed. All machinery and support equipment will be removed from the site. The pad that is used for material processing and storage will be re-graded and will then also be reclaimed.

110.3 Surface facilities to be left.

There will be no surface facilities left on forest service property. All areas will be reclaimed to the standards set forth by the US Forest Service and the Division of Oil, Gas, and Mining.

The access road to the mine that is on private property will be removed from service and reclaimed. All machinery and support equipment will be removed from the site. ~~The pad that is used for material processing and storage will be graded in a manner to eliminate any hazards but will not be reclaimed to the same standard as the rest of the mining areas and mine access roads. The lower access roads will not be reclaimed. The pad will be graded to eliminate hazards, any compacted areas will be lightly ripped and then seeded with a grass mix. The area will be used for equestrian staging and as camping facilities.~~

High Wall

Geneva Rock would propose to have high walls as part of the final grading plan because of the steep terrain in which the deposits are found. In order to remove the material a high wall will need to be left. The high walls will be 40' with shelves of 20'. Each shelf will be covered with soil to a depth of six inches and then seeded.

High Wall

Geneva Rock would propose to have high walls as part of the final grading plan because of the steep terrain in which the deposits are found. In order to remove the material a high wall will need to be left. The high walls will be 40' with shelves of 20'. Each shelf will be covered with soil to a depth of six inches and then seeded.

~~Basin or Impoundment~~

~~Geneva rock would propose to leave a very small settlement basin (10' X 20'). The purpose of the basin is to catch any sediment that may run off the site and prevent it from running into the stream at the bottom of the canyon. At the end of mining the basin will probably be seeded with a grass mix along with the rest of the lower pad. Because the pond is so small it is expected that it will fill up with sediment over a short period of time. No one should have to maintain it and it should revert back to a natural state quickly.~~

d) Seeding Method

Seeding will be done using a couple of methods. The majority of the seeding will be done with hydroseeding technology. The seeds will be placed in a tank that contains water and small amount of fibermulch (as a tracer). This mixture will be sprayed out over the soil surface either through a truck mounted sprayer or through the use of hoses. The mixture will be spread evenly and in a density consistent with the requirements of the seed mixture specifications found under the heading "Seed Mixture".

Some seeding may have to be accomplished by hand broadcasting due to the remoteness or inaccessibility of certain areas or to treat small areas that have been disturbed subsequent to hydroseeding. After the seed is broadcast the area will be raked to cover the seed

All seeding will be done in the fall of the year when the potential for germination has passed for the season. This will allow the seeds to geminate in the spring where spring precipitation and soil moisture will sustain plants long enough for establishment.

e) Fertilization

To increase the % OM in the soils an application of 10 ton/acre of composted manure will be placed on top of the soil. The manure will be incorporated into the soil either by manual or mechanical means. Care will be given to not compact the soil prior to seeding.

f) Other Revegetation Procedures

The majority of the seeding will be done with hydroseeding technology. The seeds will be placed in a tank that contains water and a small amount of fibermulch as a marker. This mixture will be sprayed out over the soil surface either through a truck mounted sprayer or through the use of hoses. The mixture will be spread evenly and in a density consistent with the requirements of the seed mixture specifications found under the heading "Seed Mixture".

(Table of Contents, continued)

	11 --	Color Photographs
Mine	15 --	Map III D-1 & D-2 Vegetation Maps of the Levan Gypsum
III - 10 --		Groundwater, Geology
III - 11 --		Potentiometric Map of Juab Valley, Utah (Ground Water Depths)
III - 12 --		Typical Cross-Section of the Juab Valley
III - 13 --		Location and Size of Ore, Waste, Etc.

Section IV - Operation Practices

IV - 1 ---	Minimizing Hazards
	Minimizing Damage to Drainage
IV - 2 ---	Minimizing Sediment and Erosion
	Deleterious Material Storage and Handling
	Soil Salvage
	Stockpiled Topsoil Protection
<u>IV - 3 ---</u>	Ongoing Reclamation

Section V - Hole Plugging

V - 1 ---	Hole Plugging
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Section VI - Impact statement

VI - 1 ---	Surface and Ground Water
<u>VI - 2 ---</u>	<u>Blasting Protocol</u>
VI - <u>3</u> 2 ---	Wildlife Habitat and Endangered Species
VI - <u>4</u> 3 ---	Existing Soil and Plant Resources
VI - <u>5</u> 4 ---	Slope Stability, Erosion, Air, Public Health and Safety

106.6 Plan for protecting and re-depositing existing soil

Any soil removal will be done with a trackhoe or dozer. All the soil and any plant matter will be stockpiled together in an area that will be undisturbed by mining activities. The location of this stockpile will be in an area that has already been disturbed by mining immediately below the active mine area or in areas adjacent to the mining. A berm will be built around the base of the stockpile to prevent erosion. The berm will also be situated so that storm water will not erode the pile. The Soil will be seeded at the end of each season with a quick cover of grass and legumes in order to prevent erosion. The seed mix for the quick cover vegetation will be ~~one recommended by DOGM~~ and will be broadcast at a rate of 15 6.76 PLS lbs./acre (see below). Soil placement or re-deposition will also be accomplished with the use of a trackhoe or dozer and shall be placed at a depth of five six inches. Because a trackhoe or dozer will be used to place the soil the surface will be left somewhat uneven, however, the uneven surface will be beneficial in preventing erosion. The uneven surface will also help in re-vegetation efforts by holding seeds in depressions higher on slopes and in a more uniform distribution.

Soil that has been removed from roadways and stored on the shoulders of the road will be replaced using a trackhoe. The soil on the sides of the road will also be planted with a quick cover seed mix. The soil should not be contaminated with salts because there will be no Magnesium Chloride use for dust control on the mine roads, it will only be used on the county road and cattleman's road. The soil will be placed to match the original slopes and grades as close as possible. This material will be tested for nutrients and if needed, a soil amendment of composted manure at the rate of 10 tons per acre will be added.

Thickness of soil material to be salvaged and stockpiled: _____ 0 - 40 in.

Area from which soil material can be salvaged: (show on map) - 60 32 acres

Volume of soil to be stockpiled: - 76,8709 32,703 cy

Volume of soil already stockpiled: _____ 21,500 cy

Much of the soil that will be used for reclamation of the active mine ing area has already been removed from the mining area and stockpiled below where the road that enters the active mine. The soil that will be used to reclaim the roads is being stored in the shoulder of the road and acts as a berm for water control and a safety barrier. When reclamation is done any extra soil will used to increase the depth of replaced soil from 5" to greater than 5".

Interim Revegetation cover crop

Intermediate Wheatgrass	Elymus hispidus	7 lbs. pls/acre
Slender Wheatgrass	Elymus trachycaulus	3 lbs. pls/acre
Hard Fescue	Festuca ovina var. duriscula	1 lbs. pls/acre
Cicer Milkvetch	Astragalus cicer	4 lbs. pls/acre

Check for average depth
Total is 1 ft covering 60 acres

106.8 Depth to groundwater, overburden material & geologic setting.

Ground water

The depth of the ground water has not been determined through any monitoring or well sampling. The mine sites are located in bedrock outcroppings and as such no ground water will be encountered. There are no springs, ponds or permanent streams in the immediate area of the mine sites. There are however a few springs in the bottom of the canyon that supply water to the town of Levan. The West site is almost ½ mile from the nearest spring and the East site is a little over ¼ mile and on the opposite side of the river than its nearest spring. These springs are next to the stream that runs at the bottom of the canyon.

See following page.

Geology

The area consists of Arapien Shale with gypsum deposits. "The Arapien Shale is a sequence of red to gray shale, siltstone, fine-grained sandstone, salt, limestone and gypsum-bearing strata, the total thickness aggregating several thousand feet. The Arapien Shale forms the foothills along the southern and southwestern base of Mount Nebo and extends southward to Chicken Creek and beyond on the western side of the Gunnison Plateau.

Arapien Shale is highly contorted by both folding and faulting. Repetition, omission, and thickening and thinning of beds are common. A true thickness probably cannot be determined because of its complicated structure. Johnson (1959) measured a gypsum bed 80 feet thick on Mining Ridge, whereas in the gypsum quarry at the mouth of Salt Creek the gypsum strata measures 250 to 300 feet thick. Discontinuous outcrops and variable thickness of the gypsum along the western front of the Gunnison Plateau is due primarily to folding and faulting.

The Salt Creek and Chicken Creek gypsum occurrences form the main deposits in north central Utah."

"The Chicken Creek gypsum deposits occur 1 ½ miles east of Levan."
"Gypsum is exposed in an outcrop about 200 feet high and 250 feet thick, and has been strip-mined. This deposit is similar in geologic occurrence and physical properties to the Salt Creek deposits. Gypsum strata cannot be traced continuously over the eleven miles between the mines, although it does crop out a number of places in between."

(Bullock, Kenneth C., Economic Geology of North Central Utah, **Geology Studies** BYU, Volume 9, Part 1, May, 1962.)

"Gypsum deposits in the Arapien Shale – lenses and beds of pale gray to white massive gypsum. Predominantly rock gypsum, but selenite and satin spar occur."

(Utah Geological Survey Map 135, Plate 2, Provisional Geologic Map of the Levan Quadrangle.)

106.9 Location and size of ore, waste, etc.

Ore - All ore mined from the site will be processed and stockpiled on the county road level. Any material on top of the gypsum deposit is assumed to be topsoil and will therefore be collected and saved. The gypsum deposit is massive and considered to be “pure”. Because of the characteristics of the deposit all materials mined will be consumed and no tailings will be generated. The gypsum will not be treated for the purposes of processing. The ore may be sprayed with water as a dust suppressant, however, any discharge from water sprayed onto the material or from rain water would not be considered hazardous.

Overburden - Overburden will be removed with a trackhoe or dozer. This material will include soil and fines, vegetation, and small rock debris. All of which will be stored together in a stockpile in an area that will be undisturbed by mining activities and will later be used as “topsoil”. A berm will be built around the base of the stockpile to prevent erosion. The berm will also be situated so that storm water will not erode the pile. The overburden is thin enough that all that is collected will be used to reclaim the areas that will be exposed as well as those areas that were already exposed at the time H.E. Davis Construction took over the mine.

Soil removed from roadways will be stored on the shoulder of the road. This will be done to control erosion and act as a safety barrier for vehicles.

All the stockpiled soil, including the soil in berms, will be seeded so that a protective covering of vegetation will grow. The vegetation will help prevent erosion as well as add organic matter to the material, which will promote future growth when the material is used for reclamation.

Tailings – No waste in the form of tailings or reject material is expected.

Dumps and ponds – Two small sediment ponds will be constructed on the lower level of the West site. The purpose of the ponds is to settle out the suspended load of any storm water that comes from the mine site. The East side mine will be dished at the bottom of the mine to catch any storm water.

Effluent discharge point – None constructed or used.

Minimizing Hazards

Shafts and tunnels – none on site.

Disposal of trash - A small 20' X 20' "boneyard" will be kept on site during the life of the operation. The "boneyard" will be kept near the crusher. All trash will be hauled off site and disposed of properly. No trash or equipment parts, etc. will be buried. A "port-a-potty" will also be used and maintained for all employees.

Capping holes - any exploratory holes that have been drilled will be consumed by the extraction of the gypsum. Drill holes made for blasting purposes will be consumed in the blasting process.

Posting signs - The following signs will be posted in appropriate places:

Danger High Bank

Hard Hat Area

Danger Flammable Liquid

No Trespassing

Blasting warning and protocol signs located on the county road east and west of the mine.

Sign warning of mining and truck traffic in the lower part of the canyon.

Berms and fences – 18" Berms will be used to divert storm water away from disturbed areas to help prevent erosion. A 3' berm will be placed above highwall areas to prevent access. Entrance to the site will be controlled by gates along with the natural vegetation and steepness of the site.

Minimizing Damage to Drainage

Care will be taken to avoid disrupting the natural drainage whenever possible. Any drainage that is impacted will be restored as close to original condition and shape as possible. Wherever drainage is disturbed the new channel will be lined with a good gradation of angular, hard, 6"-24" Rip-Rap installed to engineering guidelines to help prevent erosion. Berms will be used to keep runoff from disturbed areas from flowing directly into the drainage system, thus helping to avoid silting.

Minimizing Sediment and Erosion

Berms will be constructed at the edges of the disturbed areas to control any runoff water. The berms will prevent runoff from the disturbed areas from flowing into the drainage system, thus helping to avoid silting. These berms are intended to contain any and all stormwater that falls onto the disturbed area to within the boundary of the disturbance. The berms will also prevent run-on. The lower pad may have some runoff so a 2 (two) small sediment basins will be constructed. The basins will contain 135% of a ten year storm event. Stormwater should not leave the site.

Access Roads into the mines will be graded so that water will flow back into the hillside. The road will have a borrow ditch along the hillside that will convey water to catch basins. The catch basins will be located in low spots along the length of the road and will act as sediment traps. The catch basins will be piped under the road to a small rip-rap basin that will act as an additional trap. The downhill side of the road will have a berm to prevent trucks from going over the hill and to retain water.

Deleterious Material Storage and Handling

~~Two~~ One diesel tanks will be kept on site. The maximum size of ~~each the~~ tank will be 12,000 gallons but this may vary from season to season (sometimes being smaller). The average daily inventory will likely be about 10,000 gallons of fuel. The tanks will be kept in a bermed area that is lined with plastic and will contain 110% of the capacity of any tank placed in it. The tanks will be placed in an area that should the berm be breached any spilled fuel will not enter the stream or drainage channels. A SPCC plan will be developed for this site.

There will also be lube oil stored in 55 gallon drums. The drums will be placed over drip pans when in use. When the drums are empty they will be hauled off site and disposed of properly.

Any small spills of fuel or lube oils will be collected and haul to the Geneva Rock Point of the Mountain facility where the contaminated soil will be burned in the asphalt hot plant. Any large spills will be reported to the Division of Environmental Response and Remediation (DERR) and clean-up efforts will follow their guidelines.

Phone # for DERR 801-536-4100

Emergencies 801-536-4123

Soil Salvage

Any topsoil removal will be done with a trackhoe. All the soil and any plant matter will be stockpiled together in an area that will be undisturbed by mining activities. A berm will be built around the base of the stockpile to prevent erosion. The berm will also be situated so that storm water will not erode the pile.

Soil removed from roadways will be stored on the shoulder of the road. This will be done to control erosion and act as a safety barrier for vehicles.

Stockpiled Topsoil Protection

A berm will be built around the base of the stockpile to prevent erosion. The stockpile will also be situated so that storm water will not erode the pile.

109.1 Surface and groundwater.

Surface water should not be highly impacted by mining activities at this location. Toxins and heavy metals are absent from this type of mining operation and the processing of gypsum. Storm water may pick up some sediment load as it crosses disturbed areas of the site but this will be controlled through the use of berms and sediment basins. These structures will allow the water to drop its load as it evaporates, soaks into the ground or at a couple of points ~~one point~~ it settles in a sediment basins. ~~—before it enters the stream drainage at the bottom of the canyon.~~

There are a few springs in the area which supply the Town of Levan with drinking water. The springs include the Tunnel Spring, the Rose Bush Spring and the Cobble Spring. In 1999 the flow rate of the springs at the peak of the water season was 180gpm for the Tunnel Spring, 500gpm for the Rose Bush Spring and 160gpm for the Cobble Spring. Over the last five years the flows have dropped to 90gpm for the Tunnel Spring, 250gpm for the Rose Bush Spring and 160gpm for the Cobble Spring. The decline has corresponded with drought conditions that have continued over this same time period. No sudden drops in the flow rate have occurred. Blasting has been used at this mine to enable the removal of gypsum. A seismometer has been used to determine the effect of blasting at the closest spring, but when blasting took place the machine was not disturbed enough to even register the event. Because there appear to be no direct effects on the area of the springs themselves other factors have been considered.

There are three factors that make the blasting unlikely to effect ground water. 1: Distance from the springs. The West site is almost ½ mile from the nearest spring and the East site is a little over ¼ mile and on the opposite side of the river than its nearest spring. 2: Bedrock. The mining of gypsum is in the bedrock and should not disrupt the flow of water through, for example, alluvial deposits. In fact, blasting may fracture the rock enough to allow for more infiltration and less runoff, thus enhancing the recharge zone. 3: Soft Rock. Gypsum is a very soft mineral, defining hardness #2 of the Moh's hardness scale. Because the rock is so soft it will absorb much more of the downward energy from a blast than would other common rock types.

Another control of the blasting process that will be employed is the amount of explosive that is used to loosen the rock. It is not the intent of the blasting crew to blow the material off the mountain, only to fracture it enough to enable the material to be removed while leaving access and working areas clear and accessible.

The water system used by the city should not be impacted in any way. The only "problem" area is where the pipes from the upper springs comes close to the surface in the road at one point. This part of the road will no longer be used by haul trucks.

All deleterious material will have secondary containment in the form of plastic lined berms or drip pans. This will help prevent potential contaminants from getting onto the ground in the first place. If the ground is contaminated with a deleterious material the contaminated ground will be removed and transported off-site where it will be disposed of legally and properly. Secondary containment of fuel tanks with additional berms and grade control will help to ensure that water supplies are not affected in the event of a catastrophic failure.

The mine is located on bedrock therefore groundwater would not be effected by activities at this mine site.

GOOD
WATER ABOUT
COMPLAINING
FROM
TOWN'S
PEOPLE!

Blasting Protocol

1. Signs will be placed east (up canyon) and west (down canyon) of the mine site notifying the public when blasting is to take place in the area.
2. When blasting is to take place all traffic will be stopped and held until the "all clear" is given.
3. The mine area will also be cleared of all people and checked to make sure that no one is in the mine site.
4. When the blast is to take place a warning signal will be sounded.
5. Blasting will take place.
6. When the blast has cleared an "all clear" signal will be sounded.
7. The area will be checked for any unsafe conditions and if it is found to be in good condition then traffic will be allowed to resume in the canyon.

All safety precautions will be observed while drilling, loading and wiring the holes. Blasting will also be engineered to ensure controlled blasts that are not "oversized".

109.4 Slope stability, erosion, air, public health and safety.

Slope Stability and Erosion

Slope stability will not be a major factor at this site because the soils are only 0" to 3 feet in depth. The bedrock is close to the surface and is in fact exposed in many locations. The bedrock is massive and is not highly fractured therefore relatively little mass movement will occur.

Erosion will be controlled through the use of berms. The berms will be used to keep storm water from running off directly into the drainage system and to keep storm water from running on to soil storage areas. Because the mine is located primarily on bedrock there will be relatively small amounts of material from disturbed areas that would be eroded.

Air Quality

Because of the nature of the material that is being mined, some dust will be created in excavation, transportation and processing the gypsum. During excavation care will be taken to reduce the amount of dust generated by using good methods of loading and by reducing the amount the material is handled before loading. The dust generated during transportation can be reduced by the use of magnesium chloride sprayed directly onto the road surface. A water tank will be maintained at the crusher so that spray bars can be used to suppress dust while material is being processed. H.E. Davis Construction will maintain current air quality permits from the Division of Air Quality (DAQ).

Public Health and Safety

The mine is registered with the Mining Safety and Health Administration (MSHA) and all rules and regulations will be observed. Workers at the mine are expected to abide MSHA rules as well as company policies regarding safety for their own safety as well as that of the public. Other safety measures will include limiting access to the site with gates. Signs will be posted and a berm will be placed above high bank areas to warn and protect hikers and hunters. Other signs will be installed throughout the site in appropriate locations including "Hard Hat Area", "No Trespassing" and "Danger Flammable Liquid".

Access Road: The only current access from Highway 28 to The Chicken Creek mine runs through the Town of Levan. HE Davis Construction is currently working on a plan to route trucks around the north side of town. As of the end of September 2003, work has begun on construction of the county portion of this road. From Highway 28 to the Forest Service property the grading of the road and installation of sub-base has nearly been completed. Roadbase on this portion will be installed over the winter months as weather allows. The Forest Service and one private property owner have not yet given consent to the placement of the road. In the negotiations With local government agencies the Town of Levan took on the assignment of securing the access through this property. The Town of Levan has the most interest in assuring that the access is re-routed and it is assumed would also be the most motivated to complete the necessary arrangements. HE Davis will complete upgrades to the road in all areas as soon as permission is given

110.1 Current land use and post-mining land use.

Current or pre-mining land use(s) [other than mining]: Wildlife Habitat
& Cattle Grazing

There are also 2 existing roads that are used for access into the canyon. 1. The main public access on the county road. The county road is used by a variety of public users. 2. The cattleman's access road. This road is currently in some disrepair but will be upgraded in order to allow limited access by the cattlemen as well as the operators of the Chicken Creek mine.

List future post-mining land use(s) proposed: Wildlife Habitat
& Cattle Grazing.

The US forest service property will revert back to wildlife habitat.

The private property will also revert back to wildlife habitat except the portions belonging to the cattleman's association or any other areas to which they have legal rights which will remain as grazing land.

The 2 access roads will also be left as access roads, the county road for public access and the cattlemen's road for the private use of the cattlemen.

- little assuming responsibility
(which road do cattlemen use?)
Salt ($MgCl$) could potentially be used on this road, and if there is any soil stored there, it could contaminate the soil.

110.2 Reclamation of roads, highwalls, slopes, etc.

Reclamation of roads

Soil that has been removed from roadways and stored on the shoulders of the road will be replaced using a trackhoe. The soil will be placed to match the original slopes and grades as close as possible. The soil will be tested for nutrients and a soil amendment of composted manure will be added if necessary. Roadway areas will then be seeded with a DOGM approved seed mix

Reclamation of highwalls

A variance will be requested so that highwalls may be left as the final grade for parts of this mine. A report from AGECEC will be included with this NOI that details the stability of the slopes that are proposed for this mine. The recommendations listed in that report will be followed including setbacks of the slope face and processes used to mine the material. The benches of the highwalls will be prepared as outlined in section 106.6 and then covered with 5" of soil and then hand broadcast seeded. The area will be raked to help cover the seeds.

Reclamation of slopes

Slopes will be graded in such a way as to tie mined areas back into existing slopes. Roadways will also be graded to match the pre-mining slopes from which they were cut. All slopes will be covered with at least 5" of soil and then seeded.

WHAT KIND OF
SOIL FROM
WHERE?

Impoundments, pits and ponds to be left

None will be left. The ponds and water control structures that are not associated with the county road or the cattleman's road will be backfilled and graded to blend in with their surroundings. The area will be prepared and seeded as outlined in section 106.6.

Reclamation of impoundments, pits and ponds

There will be a two small detention basins built to collect runoff from the stockpile and processing site of the west site. The basins will be used to hold runoff water and to act as a sediment trap. The basins have been designed to hold 135 % of a 10-year storm event. The East basin will be about 525 square feet, 4 feet deep and will have a capacity of about 77 cy. The West basin will have a capacity of at least 80 cy and will be just large enough to handle runoff from the West entrance road and from the county road in this area. The basins will be reclaimed at the end of operations.

A MAP
WAS
ASKED
FOR
NEED
TO
CHECK?

Note : see copy of engineering calculations.

110.3 Surface facilities to be left.

There will be no surface facilities left on forest service property. All areas will be reclaimed to the standards set forth by the US Forest Service and the Division of Oil, Gas, and Mining.

The access roads to the West mine that are on private property will be removed from service and reclaimed. All machinery and support equipment will be removed from the site. The pad that is used for material processing and storage will be re-graded and will then also be reclaimed.

The haul road that will be used for the East site will not be reclaimed. The road is an existing access road that the cattlemen will use for access to their property.

110.5 Re-vegetation, topsoil and planting.

a) Soil Material Replacement

Soil placement or re-deposition will be accomplished with the use of a trackhoe or dozer and shall be placed at a depth of five inches. Because a trackhoe or dozer will be used to place the soil the surface will be left somewhat uneven, however, the uneven surface will be beneficial in preventing erosion. The uneven surface will also help in re-vegetation efforts by holding seeds in depressions higher on slopes and in a more uniform distribution.

b) Seed Bed Preparation

Seedbed preparation will be accomplished as soil is replaced over the mined areas and as roads are closed. Soil placement or re-deposition will be accomplished with the use of a trackhoe and shall be placed at a depth of five inches. The ground will not be scarified prior to soil re-deposition as much as possible on the mine floors and will be scarified to a depth of two feet in all other areas such as haul roads. because the working surfaces are almost entirely comprised of bedrock. The ground will already be broken up to some degree because of the blasting that will be preformed in order to break the rock out of the deposit. The soil that is replaced will be placed in a manner that will not compact the material and will leave the surface uneven. The soil may be placed in heaps rather than an even layer of 5", this will help to provide adequate soil depth for root development. Any material from the mine area that can be used as a subsoil will be used to increase the depth of cover including but not limited to any extra fines that may not be sold at the end of mining operations.

To increase the % OM in the soils an application of 10 ton/acre of composted manure will be placed on top of the soil. The manure will be incorporated into the soil either by manual or mechanical means. Care will be given to not compact the soil prior to seeding.

c) Seed Mixture

Revegetation Seed Mixture
For the Levan Gypsum Mine

Plant Type Scientific Name	Rate PLS* Pounds per Acre	No. of Seeds Per square ft.
Amalanchier utahensis	<u>1.50</u> 2.00	<u>0.88</u> 1.18
Artemisia Tridentata wyo.	<u>0.75</u> 0.10	<u>4.43</u> 5.91
Cercocarpus Montanus	<u>3.75</u> 5.00	<u>5.08</u> 6.77
Chrysothamnus nauseosus	<u>0.225</u> 0.30	<u>2.06</u> 2.75
Achillea millefolium	<u>0.075</u> 0.10	<u>4.77</u> 6.36
Linum lewisii	<u>0.75</u> 1.00	<u>4.79</u> 6.38
Hedysarum Boreale	<u>2.25</u> 3.00	<u>1.73</u> 2.31
Penstemon eatonii	<u>0.375</u> 0.50	<u>5.17</u> 6.89
Penstemon palmeri	<u>0.375</u> 0.50	<u>5.25</u> 7.00
Elymus lanceolatus	<u>1.50</u> 2.00	<u>5.30</u> 7.07
Elymus trachycaulus	<u>2.25</u> 3.00	<u>8.27</u> 11.02
Elymus smithii	<u>1.50</u> 2.00	<u>4.34</u> 5.79
Elymus spicatus	<u>2.25</u> 3.00	<u>7.23</u> 9.64
Stipa hymenoides	<u>1.50</u> 2.00	<u>6.47</u> 8.63
TOTALS	<u>19.05</u> 24.50	<u>65.79</u> 87.72
* Pure Live Seed		

SPPC Plan Certification

Facility Name: H.E. Davis Construction Inc. – Levan Chicken Creek Gypsum Mine

Facility Type: Gypsum Mine

Facility Address: .7 Miles up Chicken Creek Canyon, Levan, Utah

Person designated for enforcing Spill Prevention Control and Countermeasure Plan:

John Child
Gypsum Superintendent
H.E. Davis Construction, Inc.

Management Approval:

This Spill Prevention Control and Countermeasure Plan is supported by the Management of H.E. Davis Construction, Inc. The plan will be implemented and adhered to.

Kay J. Christofferson
President
H.E. Davis Construction, Inc.

Engineer's Certification:

This plan was prepared using sound engineering practices. I have examined the facility and this plan and find that it conforms to the guidelines and provisions of 40 CFR 112.

Name: _____

Date: _____

State Lic. # _____

INTRODUCTION

H.E. Davis Construction, Inc. operates gypsum mines in the Levan, Utah area. The gypsum is shipped to various cement plants where it is used to make cement powder. This SPPC plan covers the Levan Chicken Creek mine which includes an East and a West portion. The mine operates intermittently as material is removed to the crushing area. When a stock pile of material has been generated the material is crushed and sized and placed into new stock piles. The material is hauled off site by tracks throughout the year. This plan is warranted because of a diesel fuel tank located on site. Other materials listed in this plan will include lube oils.

INDEX

Plan Certification

Introduction

Index

Maps

Surface Drainage and Storm Water containment

Spill Reporting procedures

Spill Report and Response Form

Inspections Procedures and Records

Facility Tank Loading and Unloading

Tank List

Training

Certification of the Applicability of the Substantial Harm Criteria

SURFACE DRAINAGE AND STORM WATER CONTAINMENT

DRAINAGE

All natural surface drainage at this site is to Chicken Creek. Surface water should not be highly impacted by mining activities at this location. Toxins and heavy metals are absent from this type of mining operation and the processing of gypsum. Storm water may pick up some sediment load as it crosses disturbed areas of the site but this will be controlled through the use of berms and sediment basins. These structures will allow the water to drop its load as it evaporates, soaks into the ground or at a couple of points it settles in a sediment basin. Water that has passed through disturbed area will be detained and not allowed to enter into the Chicken Creek drainage system.

Erosion will be controlled through the use of berms. The berms will be used to keep storm water from running off directly into the drainage system and to keep storm water from running on to soil storage areas. Because the mine is located primarily on bedrock there will be relatively small amounts of material from disturbed areas that would be eroded.

The diesel storage tank will have a berm built around it which will provide secondary containment of 110% of the tank capacity. A water tank will also be kept on site. All tanks are kept in good repair so as to prevent equipment failure.

SPILL MITIGATION

Any spill of liquid substances will be covered with dirt which will act as an absorbent material. Dirt may also be used to build dikes around spills in order to contain and prevent further spreading. This material and any native material that is contaminated will be collected and disposed of properly.

All spills must be reported – SEE **SPILL REPORTING PROCEDURES** contained in this plan.

SPILL REPORTING PROCEDURES

All spills that occur at this facility must be documented using the Spill Report and Response form which is included in the SPCC Plan. This form will be completed as soon as possible after the spill has been properly contained. Significant spills (25 gallons or more) need to be reported to the plant response team immediately.

Spill of oil or any petroleum products into or upon the navigable waters of the United States of Adjoining shorelines (THIS INCLUDES CHICKEN CREEK) will be reported immediately to the following:

U.S. COAST GUARD, WASHINGTON D.C.
National Response Center
(24-hour #) 1-800-424-8802
(24-hour #) 1-202-267-2675

UTAH DEPARTMENT of ENVIRONMENTAL QUALITY
Division of Water Quality
1-801-538-6146

Any spills of 25 gallons or more need to be reported immediately to:

UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
Division of Environmental Response and Remediation
1-801-536-4100
(Emergencies) 1-801-536-4123

H.E. Davis Construction, Inc.	
John Child – 1-801-592-5704	Home: 1-801-489-6819
Cameron Holmen – 1-801-592-8164	Home: 1-801-768-9317
Tony Christofferson – 1-801-592-5578	Home: 1-801-756-9677

Dial 911 can access all local emergency services

Juab County Fire Department	911
Juab County Sheriff Department	911
Juab County Ambulance Service	911

Juab County Fire Department, non emergency	1-435-623-0822
Juab County Sheriff Department, non emergency	1-435-623-1349
Juab County Ambulance Service, non emergency	1-435-623-3404

SPILL REPORT AND RESPONSE FORM

A Spill and Leak Response Form documents the date of the incident, specific location, materials released, quantity released, and to whom the spill was reported. The Spill and Leak Record also includes a description of the incident, response procedures implemented to mitigate adverse effects, and corrective measures taken or proposed to prevent recurring releases.

The Spill and Leak Record shall be reviewed and signed by the Plant Manager.

Date: _____ Reporter's Name: _____

Location	Material	Quantity	Reported To
Description of Incident:			
Response Procedure:			
Corrective Action:			
Plant Manager's Signature:			

INSPECTION PRODEDURES AND RECORDS

INSPECTION PROCEDURES

The entire facility is subject to daily visual inspection by the operating personnel. These inspections include observation of facility drainage, bulk storage tanks, transfer operations and security. Specific items inspected include storage tanks, drums, secondary containment, pumps, valves, flanges, pipes, hoses, lighting and other equipment. Any sign of deterioration or leakage is immediately investigated and corrective action is promptly initiated.

INSPECTION RECORDS

At lease once each calendar year, a record of the inspection, signed by the appropriate supervisor or inspector, is to be made a part of the SPCC Plan (appendix). The following form can be used to complete the inspections.

Instructions: Check "yes" if you observe signs of deterioration, leaks or accumulation of oil at any of the following potential spill sources. Describe corrective actions taken or proposed. Sign the inspection form. For any additional records, maintain the completed form in the appendix of the SPCC Plan.

Date: _____ Inspector's Name: _____

TANKS		PUMPS		PIPES, VALVES		DRUMS		DIKES		SECURITY	
YES	NO	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
Description:											
Corrective Action:											
Inspector's Signature:											

FACILITY TANK LOADING AND UNLOADING

Tank loading and unloading procedures shall meet at least the minimum requirements and regulations established by the Department of Transportation. Driver's will be instructed to remain by the tank and visually monitor loading, unloading and dispensing operations to insure that no leaks spills or overfills occur. All vehicles loading or unloading shall be visually inspected prior to leaving the facility. If a problem is observed on the vehicle it must be corrected before the tank truck can leave, to avoid any spillage while in transit.

TANK LIST

Tank Type	Tank Contents	Tank Capacity	Location
Steel	Diesel Fuel	8,000 gal.	West side of Stockpiles
Steel	Water	5,000 gal.	Next to crusher

TRAINING

All personnel shall be properly instructed on the requirements of this plan as well as emergency response procedures. The Crusher Plant operator is designated as the spill prevention coordinator. The Crusher Plant operator will be the Responsible Person on site.

All personnel will also be instructed in the proper and safe operation of all equipment on site.

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA

Facility Name: _____

Facility Address: _____

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 Gallons?

Yes _____ No _____

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?

Yes _____ No _____

3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

Yes _____ No _____

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula) such that a discharge from the facility would shut down a public drinking water intake?

Yes _____ No _____

5. does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes _____ No _____

Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate and complete.

Signature

Name (type or print)

Title

**IF YOU ANSWER "NO" TO ALL
QUESTIONS, DO NOT FILE WITH
THE STATE OR EPA**

This page is a reference page used to track documents internally for the Division of Oil, Gas and Mining

Mine Permit Number MO230016 Mine Name Levan Gypsum
Operator Geneva Rock Date 10-3-2003
TO _____ FROM _____

☐ CONFIDENTIAL ☐ BOND CLOSURE ☐ LARGE MAPS ☒ EXPANDABLE
☐ MULTIPUL DOCUMENT TRACKING SHEET ☐ NEW APPROVED NOI
☐ AMENDMENT ☐ OTHER _____

Description

YEAR-Record Number

☐ NOI ☒ Incoming ☐ Outgoing ☐ Internal ☐ Superceded

Letter Initial Review of Amended Plan

☐ NOI ☐ Incoming ☐ Outgoing ☐ Internal ☐ Superceded

☐ NOI ☐ Incoming ☐ Outgoing ☐ Internal ☐ Superceded

☐ NOI ☐ Incoming ☐ Outgoing ☐ Internal ☐ Superceded

☐ TEXT/ 8 1/2 X 11 MAP PAGES ☐ 11 X 17 MAPS ☐ LARGE MAP

COMMENTS: _____

CC: _____